

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **XX/XX/2020**

Region: Wilmington Regional Office
County: Columbus
NC Facility ID: 2400162
Inspector's Name: Jmanda Dunston
Date of Last Inspection: 11/13/2019
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): MaxPro Manufacturing, LLC

Facility Address:
 MaxPro Manufacturing, LLC
 31 Industrial Boulevard South
 Whiteville, NC 28472

SIC: 3081 / Unsupported Plastics Film And Sheet
NAICS: 326113 / Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02D .0521
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: 02Q .0317 (VOCs)
NC Toxics: 02D .1100; 02Q .0711
112(r): N/A
Other: 02Q .0317 (HAPs); 02Q .1806

Facility Contact	Authorized Contact	Technical Contact
Ron Foley Vice President of Operations (910) 316-9099 PO Box 567 Whiteville, NC 28472	Ron Foley Vice President of Operations (910) 316-9099 PO Box 567 Whiteville, NC 28472	Ron Foley Vice President of Operations (910) 316-9099 PO Box 567 Whiteville, NC 28472

Application Data

Application Number: 2400162.17B
Date Received: 10/20/2017
Application Type: Modification
Application Schedule: TV-1st Time

Existing Permit Data

Existing Permit Number: 10272/R01
Existing Permit Issue Date: 10/28/2016
Existing Permit Expiration Date: 12/01/2017

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	---	---	152.26	---	---	11.14	7.01 [Toluene]
2017	---	---	172.92	---	---	12.65	7.68 [Toluene]
2016	---	---	102.88	---	---	6.94	4.11 [Toluene]

Review Engineer: Jeff Twisdale

Review Engineer's Signature: _____ **Date:** _____

Comments / Recommendations:

Issue 10272/T02
Permit Issue Date: **XX/XX/2020**
Permit Expiration Date: **XX/XX/2025**

I. Purpose of Application:

MaxPro Manufacturing, LLC, (MaxPro) manufactures specialty glass window film for vehicles and buildings. MaxPro is classified as a Title V facility that is avoiding the Prevention of Significant Deterioration (PSD) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) programs with a 250 tons per year limit for volatile organic compounds (VOCs), and a 10 tons per year limit on individual hazardous air pollutants (HAPs) plus a 25 tons per year limit on total HAPs, respectively. This permit modification will result in the issuance of Title V permit (10272T02) with updated specific and general conditions for monitoring, recordkeeping and reporting requirements.

The only permitted source at the facility is the gravure coating station with associated curing and cleaning operations. The maximum physical capacity of the machine is 150 feet per minute (fpm) and a 76-inch wide web according to the application. The air emissions from this source are determined by mass balance. The facility tracks the hourly, daily, and monthly VOC, HAP and TAP usage by computer, and submits the emission reports quarterly. MaxPro had only increased the hours of operation during the last permit revision. The hours of operation were eight hours per day (one shift) and five days per week (40 hour week) while the projected hours of operation are now 16 hours per day (two shifts) and five days per week (80 hour week).

MaxPro’s gravure coating station can only apply one coating at a time, and normally three coatings are utilized to make most of the window films. The process steps consist of laminating two films together, applying a scratch resistant coating and applying a pressure sensitive mounting material.

II. Facility and Application Chronology:

- October 20, 2017 The application was received.
- February 13, 2020 Request for additional information was made to Mr. Foley of MaxPro by phone regarding the potential to emit and worst case hourly emissions of VOCs, HAPs and TAPs.
- February 13, 2020 Additional information received from Mr. Foley of MaxPro.
- February 14, 2020 Draft permit and review was provided to the Title V supervisor, WiRO, SSCB and Mr. Foley of MaxPro for comments.
- February 20, 2020 Comments were received from the Title V supervisor and corrections were made.
- March 3, 2020 Clarifications were received from Mr. Foley of MaxPro, and Mr. Chuck Pakala, MaxPro’s consultant, and a few updates to descriptions were made.
- March 4, 2020 Changes to the TVEE were approved.
- April XX, 2020 Permit issued.

III. Permitted Equipment:

The permitted equipment list for MaxPro is shown below:

One Polymer Film Coating and Lamination Line consisting of the following:			
Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-CL1	Gravure coating and lamination line with heated air dryer and ultraviolet curing station	N/A	N/A

There were no insignificant activities listed for this facility; however, MaxPro listed a natural gas-fired burner that indirectly heats the air for the dryer. The natural gas-fired burner (1.2 million Btu per hour maximum heat input capacity, ID No. NGB) with annual potential emissions less than 5 tons for each criteria pollutant and less than 1,000 pounds for each hazardous air pollutant will be added to the insignificant activities list.

IV. Regulatory Review:

- A. The following regulations apply to this facility:
 15A NCAC 02D .0521 "Control of Visible Emissions"
 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit"
 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"
 15A NCAC 02Q .0317 "Avoidance Conditions" to avoid the applicability of 15A NCAC 02D .0530 and 15A NCAC 02D .1111

1. 15A NCAC 02D .0521 "Control of Visible Emissions"
 No monitoring/recordkeeping/reporting is required for visible emissions from this source (**ID No. ES-CL1**) since no visible emissions are expected from this process and none were seen during last inspection.
2. 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" and 2Q .0711 "Emission Rates Requiring a Permit"

The last inspection report indicates; "The facility tracks their product purchase and usage with hourly computer monitoring of each batch of tint. An excel spreadsheet has been developed to do this."

<i>TAP Limits:</i>	<i>Highest Hourly Rate (lbs)</i>	<i>Max Allowed Hourly (lbs)</i>	<i>Highest 24hr Rate (lbs)</i>	<i>Max Allow Daily (lbs)</i>
<i>N-Hexane</i>	9.35	N/A	118.49	528
<i>MEK</i>	35.22	100	348.14	2400
<i>Toluene</i>	25.83	30	255.28	720
<i>Ethyl Acetate</i>	68.62	100	869.23	N/A
<i>MIBK</i>	12.96	60	82.92	1440
<i>Xylene</i>	0.28	16.4	2.80	57

The last inspection report indicates the facility is currently in compliance with the existing hourly and daily state TAP limits. The following analysis by this engineer is based on the inspection report and the latest quarterly emissions report ending on September 30, 2019. For this projection, it was assumed the current reported daily emissions rate is for two 8 hour shifts (16 hours) will increase by 1.5 times to account for working a maximum of 24 hours (3 shifts). The projected worst case daily emissions rate was based on the highest hourly rate times 24 hours.

TABLE - Projected State Toxic Air Pollutant Impacts based on reported emissions rates

Toxic Air Pollutant	Highest Hourly Rate (HHR) (lb/hr)	Max Allowed Hourly (lb/hr)	Compliance indicated?	Projected Highest 24hr Rate (x HHR) (lb/day)	Highest Reported 24hr Rate for 2 Shifts (lb/day)	Projected Highest 24hr Rate for 3 Shifts¹ (lb/day)	Max Allowed Daily (lb/day)	Compliance indicated?
N-Hexane	9.35	N/A	N/A	224.4	118.49	177.7	528	Yes
MEK	35.22	100	Yes	845.28	348.14	522.21	2,400	Yes
Toluene	25.83	30	Yes	619.92	255.28	382.92	720	Yes
Ethyl Acetate	68.62	100	Yes	1646.88	869.23	1303.8	N/A	N/A
MIBK	12.96	60	Yes	311.04	82.92	124.38	1,440	Yes
Xylene ²	0.28	68.44	Yes	6.72	2.8	4.2	113.7	Yes

¹The projected maximum daily (24 hour) emission rate for 3 shifts is based on the highest reported 24 hour rate assuming 2 shifts (16 hours) is normal daily operation.

²Xylene emissions are less than the Toxic Air Pollutant Permitted Emission Rates (TPER) listed under 15A NCAC 02Q .0711.

In summary, it appears continued compliance with the existing hourly TAP limits is indicated as these emissions are basically limited to the gravure coating station's capacity. Also, it appears continued compliance with the existing daily limits is indicated even with the increase in operating hours.

3. 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"

No odors have been detected at the facility during inspections. Continued compliance is expected.

4. 15A NCAC 02Q .0317 "Avoidance Conditions" to avoid the applicability of 15A NCAC 02D .0530 and 15A NCAC 02D .1111

The existing conditions for 15A NCAC 02Q .0317 "Avoidance Conditions" for 15A NCAC 02D .0530 "Prevention of Significant Deterioration" and 15A NCAC 02D .1111 "Maximum Achievable Control Technology," to avoid applicability of these respective programs were updated to latest format.

The facility tracks the hourly, daily, and monthly VOC and HAP usage by computer, and submits the emission reports quarterly. DAQ's Wilmington Regional Office (WiRO) prefers that the reporting remains quarterly to mesh with the quarterly TAP emissions reporting even though semiannual reporting would be allowed by rule. The historical totals for VOC and HAP emissions are as follows:

2013: 8.32 tons VOCs (facility just started 2013)
 2014: 57.59 tons VOCs
 2015: 67.65 tons VOCs
 2016: 102.88 tons VOCs; 6.94 tons Total HAPs
 2017: 172.92 tons VOCs; 12.65 tons Total HAPs
 2018: 152.26 tons VOCs; 11.14 tons Total HAPs
 2019: 148.46 tons VOCs (12-month rolling)
 10.67 tons Total HAPs (12-month rolling)

Note: Reported emissions rates since 2016 have been based on a two shift (16 hour) production day.

The following emissions summary is based on the latest inspection report and the latest quarterly emissions report of the 12-month rolling average ending on September 30, 2019:

Regulated Pollutant	HAP and/or TAP	Emissions Rate Pounds per Year	Emissions Rate Tons per Year
VOCs	N/A	N/A	148.46
Total HAPs	HAPs	21,189.34	10.67
Toluene	HAP and TAP	13,461.72	6.73
N-Hexane	HAP and TAP	7,572.46	3.79
MIBK	HAP and TAP	155.16	0.078
Xylene	HAP and TAP	145.66	.073
Ethyl Acetate	TAP	55,594	N/A
MEK	TAP	22,851	N/A

Note: Highlighted fields in table indicate the regulated pollutants that will be subject to 02Q .0317 "Avoidance Conditions."

Though emissions have increased since the increase in hours of operation in 2016 to a two shift (16 hour) day, MaxPro shall remain in compliance with 02Q .0317 by staying well below the 250 tons per year rolling average of VOC emissions, and HAPs staying well below 10 tons per year for an individual HAP or 25 tons per year for combined HAPs rolling average. Continued compliance is expected for the normal 16 hour production day; however, if MaxPro increases production time to 24 hours per day (3 shifts), these limits may be exceeded and need to be monitored closely.

V. PSD/PSD Increment, NESHAPs, NSPS, and Chemical Accident Prevention (112(r)):

- A. PSD/PSD Increment** – This is not a PSD modification. Columbus County has triggered increment tracking under PSD for the emissions of PM₁₀, SO₂ and NO_x. The previous modification was for an increase in the hours of operation and the removal of the synthetic minor limitation for VOC emissions. The increase in the hours of operation did not result in any change in the short-term actual hourly emissions; therefore, no additional increment is consumed or generated.
- B. NSPS** – The facility does not appear to be subject to any NSPS rules according to the previous permit review:
- **Subpart QQ (Publication Rotogravure Printing)** – The facility is not subject to NSPS Subpart QQ because they do not meet the definition of “publication” (paper products, magazines, brochures, etc.).
 - **Subpart FFF (Flexible Vinyl and Urethane Coating)** – The facility is currently not subject to NSPS Subpart FFF because they do not coat vinyl or urethane substrates. At this time, the facility processes polyester and polypropylene substrates. The facility is aware that if they decide to coat urethane or vinyl, they will need to determine applicability to this rule.
 - **Subpart VVV (Polymeric Coating)** – The facility is not subject to NSPS Subpart VVV because they apply monomer to plastic film. The rule states that polymeric coating must be applied to substrates *other than* plastic film.
- C. NESHAP** – The applicability of Subpart KK - National Emission Standards for the Printing and Publishing Industry and of Subpart JJJJ - National Emission Standards for Paper and Other Web Coatings was reviewed by this engineer. Currently in the permit, the facility is classified as an area source and is not subject to the requirements of MACT Subpart KK pursuant to 40 CFR 63.820(a)(2); however, after more discussion with the facility and more research, the gravure coating and laminating line would be considered a web coating line where web coating line means any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station, and web means a continuous substrate (e.g., paper, film, foil) which is flexible enough to be wound or unwound as rolls. The web coating line would not be a flexographic press/printing station nor a rotogravure press/printing station. Therefore, the gravure coating and laminating line would be subject to MACT Subpart JJJ; however, the facility is classified as an area source and is not subject to the requirements of MACT Subpart JJJJ pursuant to 40 CFR 63.3290 since the facility is not a major source. In the event that the HAP emissions exceed the limits in the 02Q .0317 Avoidance Condition or an exceedance is anticipated (becomes a major HAP source), the applicability of MACT Subpart JJJJ would need to be considered further before such an event occurs.
- D. Accidental Release Prevention** – The facility does not store any Section 112(r) chemicals at the threshold levels and is not required to maintain a written Risk Management Plan.
- E. CAM** - 40 CFR 64 requires that a continuous assurance monitoring plan be developed for all equipment located at major facilities that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard. The source was evaluated for CAM applicability, and it has determined that the source does not have a control device to meet compliance with an emission limit or a standard for a federally regulated pollutant. Therefore, CAM does not apply to this facility at this time.

VI. Facility-Wide Air Toxics:

The original modeling demonstration was reviewed by Mr. Charles Buckler of DAQ’s Air Quality Analysis Branch (see Modeling Memorandum dated December 10, 2012). The modeling analysis showed compliance with all the Acceptable Ambient Levels (AALs). The TAP limits were added to the 15A NCAC 02D .1100 permit condition at that time. The following table is a summary of the “Table 1 Maximum Modeled Impacts:”

Toxic Air Pollutant	TPER Limit	Permit Emission Limit	AAL (ug/m ³)	%AAL
Ethyl acetate (141-78-6)	36 lb/hr	100 lb/hr	140,000	2.3
Hexane, n- (110-54-3)	23 lb/day	528 lb/day	1,100	64
MEK (methyl ethyl ketone, 2-butanone) (78-93-3)	22.4 lb/hr AND 78 lb/day	100 lb/hr AND 2400 lb/day	88,500 3,700	3.6 35
MIBK (methyl isobutyl ketone) (108-10-1)	7.6 lb/hr AND 52 lb/day	60 lb/hr AND 1440 lb/day	30,000 2,560	6.5 30
Toluene (108-88-3)	14.4 lb/hr AND 98 lb/day	30 lb/hr AND 720 lb/day	56,000 4,700	1.7 8.2

This 1st Time Title V application did not require a toxics review since this is a conversion to Title V permit format and not a modification. MaxPro will continue to comply with the current emissions limits even though the hours of operation and daily emissions of TAPs were increased during the previous permit modification. See the above discussion in Section IV. Since none of the toxic air pollutants evaluated exceed their modeled limits for the AALs, NC DAQ has determined that there is not an unacceptable risk to human health as a result of this 1st Time Title V permit modification.

VII. Facility Compliance Status:

The facility was last inspected on November 13, 2019 by Ms. Jmanda Dunston of the WiRO, and compliance was indicated.

VIII. Facility-Wide Emissions:

The latest emissions inventories are listed below:

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	---	---	152.26	---	---	11.14	7.01 [Toluene]
2017	---	---	172.92	---	---	12.65	7.68 [Toluene]
2016	---	---	102.88	---	---	6.94	4.11 [Toluene]

IX. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. The State of South Carolina is an affected state/local program within 50 miles of the facility.

X. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for the 1st Time Title V application.

A consistency determination was not required for the 1st Time Title V application.

Mr. Ron Foley of MaxPro and Mr. Chuck Pakala, MaxPro's consultant, made a few clarifications regarding the type of coating line and dryer utilized at the facility on February 27, 2020 and again on March 3, 2020 after more questions were asked.

WiRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance. Ms. Jmanda Dunston of the WiRO submitted no comments on February 17, 2020.

RCO concurs with WiRO's recommendation to issue the Title V permit.

Recommend issuance of Air Permit No. 10272T02 to MaxPro Manufacturing, LLC once the public notice and EPA review periods are completed.